



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,253	03/08/2001	Raymond K.J. Ong	GECA-3214	5453
23465	7590	05/02/2003		
JOHN S. BEULICK C/O ARMSTRONG TEASDALE, LLP ONE METROPOLITAN SQUARE SUITE 2600 ST LOUIS, MO 63102-2740			EXAMINER WAKS, JOSEPH	
			ART UNIT 2834	PAPER NUMBER

DATE MAILED: 05/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/681,253	ONG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Joseph Waks	2834	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 March 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6 and 28 is/are allowed.
- 6) ☒ Claim(s) 7-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 13, 2003 has been entered.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 7, 8, 13, 14, 18-20 and 23** are rejected under 35 U.S.C. 102(b) as being anticipated by **Albright et al. (US 4,330,726)**.

**Albright et al.** disclose invention as claimed: a stator 10 with non-magnetic teeth including a non-magnetic tooth back portion 14 with a plurality of the non-magnetic teeth unitary with each other and with a substantially circular back portion attached to a back iron 12.

Re claim 7 and 8, **Albright et al.** disclose the stator as claimed. Claims 7 and 8 that merely recite connecting and using the disclosed features together are inherent to the disclosed structure.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 9, 15, 21, 22 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Albright et al. (US 4,330,726)** in view of **Chari et al. (US 4,278,905)**.

**Albright et al.** disclose the method essentially as claimed. However, **Albright et al.** do not disclose the step of attaching the substantially circular back portion to the back iron with a key, a rotor jacket surrounding said field windings, a vacuum pump in flow communication with an interior of said rotor jacket and a cryogenic cooler coupled to the rotor shaft.

**Chari et al.** disclose a plurality of non-magnetic teeth 51 having a back section 55 with a key installed in the slots 57 of the back iron of a superconducting electrical machine, a rotor jacket surrounding said field windings; and a vacuum pump in flow communication with an interior of the rotor jacket, and a cryogenic cooler coupled to the rotor shaft, for the purpose of providing a well known in the art cryogenic cooling for the dynamoelectric machine using a superconducting armature.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to the method for fabricating a stator as taught by **Albright et al.** and to provide the back section with a key installed in the slots as taught by **Chari et al.** for the purpose of installing and fit separately prefabricated non-magnetic tooth back portion and the back iron, and using the stator with well known in the art superconducting armature.

Art Unit: 2834

6. **Claims 10, 16 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Albright et al. (US 4,330,726)** in view of **Tesar (US 5,355,743)**.

**Albright et al.** disclose the method essentially as claimed. However, **Albright et al.** do not disclose the non-magnetic teeth comprising at least one of a glass laminate, carbon fiber and a fiber polymer.

**Tesar** discloses the use of the carbon fiber material in electrical machines for the purpose of reducing the weight of the rotating parts while simultaneously providing high structural strength characteristics.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the method as disclosed by **Albright et al.** and to provide the non-magnetic teeth comprising the well known in the art high carbon fiber material as taught by **Tesar** for the purpose of reducing the weight of the rotating parts while simultaneously providing a high structural strength characteristics since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

7. **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Albright et al. (US 4,330,726)** in view of **Everton (US 5,670,838)**.

**Albright et al.** disclose all elements essentially as claimed. However, **Albright et al.** does not disclose the teeth being attached to the back iron with adhesive.

**Everton** discloses a superconducting electrical machine having teeth 9 bounded to the back iron 10 with an adhesive for the purpose of providing a magnetic reluctance.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the machine as taught by **Albright et al.** and to provide the teeth being attached to the back iron with adhesive as taught by **Everton** for the purpose of providing a magnetic reluctance.

***Allowable Subject Matter***

8. **Claims 6 and 28** are allowed.
9. **Claims 11, 17, and 27** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The feature of the non-magnetic tooth including at least one embedded conductor, in combination with the other limitations present, are neither disclosed nor taught by the prior art of record.

***Response to Arguments***

10. Applicant's arguments with respect to claims 7, 18 and 28 have been considered but are moot in view of the new ground(s) of rejection.

**Prior Art**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

***Communication***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Waks whose telephone number is (703) 308-1676. The examiner can normally be reached on Monday through Thursday 8 am to 5 pm.

Application/Control Number: 09/681,253

Page 6

Art Unit: 2834

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

  
JOSEPH WAKS  
PRIMARY PATENT EXAMINER  
TC-2800

JW  
April 30, 2003